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Institutional Ownership in Relation to the Mandatory Audit Firm Rotation Rule and its Effect on Audit Quality

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Claremont McKenna College

Institutional Ownership in Relation to the Mandatory Audit Firm Rotation
Rule and its Effect on Audit Quality

Submitted to

Professor Andrew Finley

By

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for

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Abstract

Previous studies have concluded that mandatory audit firm rotation (MAFR) has not been successful in controlling the outcomes of the auditor-client relationship. Additionally, the literature concludes that high institutional ownership enhances audit quality through monitoring the management-auditor relationship. This paper hypothesizes that better corporate governance in terms of high institutional ownership percentage will enhance audit quality during a MAFR regime. Since countries that have implemented MAFR in the past have their data in their local languages, I use the special case of Arthur Andersen clients based in the US as my treatment group. I carry out a descriptive statistical analysis and run linear OLS regressions with discretionary accruals as a proxy for audit quality as my dependent variable. Results suggest that the percentage of institutional ownership does not have a significant impact on audit quality in a MAFR regime.

Keywords: MAFR, institutional ownership, audit, discretionary accruals.

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I. Introduction

On April 1st, 2017 the Mandatory Audit Firm Rotation (MAFR) rule was officially adopted in India. This new section of the companies act demands that all public companies and certain private companies with few exceptions have to change their audit firms after two consecutive 5-year terms. In the past, the EU, Argentina, Brazil, China, Italy and South Korea have implemented MAFR with the objective of achieving auditor independence. However, studies that used Italy and Brazil as a case study concluded that MAFR has a negative effect on audit quality and it unnecessarily increases administrative costs for both the client and the audit firm (Aslan 2011). Despite the results from these case studies, India has implemented MAFR in response to the huge Satyam Scandal of 2009 where PWC helped this computer software company to manipulate its books of accounts to the tune of Rs.50.4 billion (Choudhary 2018).

After the announcement of MAFR in India, all the Big 4 audit firms and a few mid-tier firms set up special audit rotation departments. Therefore, the costs of implementing MAFR has added a burden onto the audit firms. Moreover, the objective of auditor independence is not achieved because management and auditors already know that their relationship is short-term, so they have no incentive to maintain it and thus reduces audit quality (Aslan 2011). If there are studies suggesting that MAFR is not successful in enhancing audit quality, then why is India doing it? Moreover, in the past, all countries that have implemented MAFR have implemented it on firms with certain capital and borrowing requirements or certain types of institutions. For example, in India,

only those unlisted public companies having a paid-up share capital of INR 10 crores are eligible for MAFR (Sriram 2015). Similarly, companies in Italy were eligible for MAFR only if they were a listed company and a public interest company (Ewelt-Knauer, Gold and Pott 2012). Since none of the works of literature have mentioned companies being eligible for MAFR based on good corporate governance structures in place, I decided to do to explore this topic.

Previous studies have shown that good corporate governance mechanisms can ensure auditor independence (Klein 2002). If a firm has a high institutional ownership percentage, then they have greater control over management and therefore, can oversee and monitor management and accounting decisions (Mitra, Hossain and Deis 2007). Moreover, the institutional investors can monitor the auditing process to ensure a high-quality audit. Additionally, greater the institutional owners, greater is the demand for accountability because more of their money is invested in the company so any fraud or hurting of reputation to the firm could cause great damage to them (Mitra, Hossain and Deis 2007). Therefore, institutional owners that have a large share in the company monitor auditor-management relationship and ensure auditor independence. Since the flaw of the MAFR regime is that it fails to control the outcomes of the auditor-client relationship, then implementing the regime on companies that already have good corporate governance in place that ensures monitoring will enhance audit quality and its benefits will outweigh its costs (Aslan 2011). My hypothesis, hence is that better corporate governance in terms of a high institutional ownership percentage will enhance the effect of mandatory audit firm rotation on audit quality.

I look at the special case of Arthur Andersen (AA) clients as my mandatory audit firm rotation scenario. The failure of AA in 2001, after being involved in scams like Worldcom and Enron, forced its clients to change auditors. Even though these AA clients had to change auditors, they didn't have to change auditors in the future, so this is not a true MAFR scenario. However, this scenario does help me analyze the effect of forced auditor change in ways which have not been done before. I use these AA clients and compare it to those firms that voluntarily switched auditors in 2001. I carry out a linear regression with five years of pre-rotation (1996-2000) data and five years of post-rotation (2002-2006) data with scenarios of high institutional owners and low institutional owners to test for the effect on audit quality. I use discretionary accruals as my proxy for audit quality and carry out my regressions with independent variables such as whether the firm is subjected to MAFR or volunteer rotation, pre and post 2001, and an interacting term combining these two independent variables. I run four different variations of this regression model to test for improvements in audit quality by comparing MAFR vs non-MAFR countries in the pre and post 2001 period while separating them based on high and low institutional ownership percentages.

After running my OLS linear regressions, I find that MAFR does not have a significant effect on audit quality for both the high institutional ownership firms and low institutional ownership firms. Therefore, I do not find any evidence that stronger corporate governance enhances the effectiveness of MAFR.

The reason for carrying out this research is to find conditions that could be helpful in selecting firms that should be subjected to a MAFR regime in order to enhance audit

quality. This study is different and adds to the existing literature about the MAFR regime in that we have no evidence that high institutional ownership as a proxy for good corporate governance enhances audit quality during a MAFR regime. Hence this study is useful for regulators to know that corporate governance should not be a requirement for a company being eligible for a MAFR regime. The takeaway for investors from this study is that they should still heavily regulate the auditing process of their company, regardless of whether the firm is subjected to MAFR or not to ensure high-quality audit.

This paper is organized as follows with section two reviewing the literature and hypothesis development. Then section three and section four I talk about the data and methodology. Next section five discusses the results and limitations of the study and then section six mentions the concluding remarks.

II. Literature Review and Hypothesis Development

Accounting scandals around the world in recent history have raised questions about audit quality and consequently audit quality has gained much importance over the years. Audit quality has no single definition, but instead is a multi-faceted concept. It can be defined as “the market-assessed joint probability that a given auditor will both detect a breach in the client’s accounting system and report the breach” (DeAngelo 1981). However, the definition is broader than this since the auditor’s job is not only to check whether financial statements are in accordance to GAAP, but also to check how true the financial statements are reflective of the company’s health (DeFond and Zhang 2014).

This raises the question of high-quality audit and how to achieve it. Past studies have shown how audit quality is affected by audit fees (Hoitash, Markelevich and

Barragato 2007). Additionally, audit firm size (Lennox, 1999) and Big N auditors (Vanstraelen 2000) affect audit quality. Other variables affecting audit quality are audit tenure (Carcello and Nagy 2004), corporate governance and litigations against auditors (Lennox 1999). In the past few years, there has been a debate on whether Mandatory Audit Firm Rotation (MAFR) enhances audit quality or not (Aslan, 2011; Jackson, Moldrich, Roebuck 2008). Many countries like Brazil, Italy, South Korea and very recently India have adopted MAFR in the past. However, after analyzing countries that have implemented MAFR there has been conflicting conclusions on the impact of it on audit quality.

MAFR in theory can improve audit quality by improving auditor independence at least in perception. In a study conducted by Bronson, Harris and Whisenant (2016) they conclude that after adopting MAFR the client experiences less earnings smoothing, more timely recognition of losses and therefore enhancement of audit quality. MAFR does this by promoting auditor independence as the firm tenure is only for a fixed short period of time, in which the auditor-client relationship cannot develop a strong bond. The level of perceived auditor independence is also important in the argument for MAFR. For example, Titman and Trueman (1986) provide a model in which perceived audit quality positively impacts the value of an initial public offering. Therefore, auditor independence even in perception is important. Dopuch, King, and Schwartz (2001) find that MAFR leads to less bias in audit reports. MAFR might also be the answer to better audit quality because over time auditors might become stale and find the audit engagements as repetitive. Their disengagement cultivates a tendency to anticipate results rather than pay attention to small and subtle changes, thus resulting in auditor's response being affected

by subjective judgments made by management and previous auditors (Arel, Brody and Kurt 2005). Additionally, the most convincing argument is that with MAFR in place the auditors do not feel the pressure to please the client because rotation will occur on a regular basis, and instead the auditors would be compelled to report accurately as they have the fear of being caught by the firm that takes over next (Arel, Brody and Kurt 2005).

At the same time, other researchers have concluded that costs of MAFR and the disadvantages outweigh its benefits. For large firms as well, the costs will be high with an additional rotation department, IT costs, processing costs, and training costs and loss of efficiencies when the audit and management team start to interact (Breedon 2012). Aslan (2011) uses Italy and Spain as case studies and concludes that MAFR decreases audit quality and completion in the audit market. This study reveals that the issue of auditor independence in actuality is not solved by MAFR and the cost of MAFR is not justified (Aslan 2011). Only perceived auditor independence increases. MAFR disincentivizes smaller audit firms to invest in themselves because they cannot compete with bigger audit firms to gain clients (Aslan 2011). Other papers like the one by Cameran, Francis, Marra and Pettinicchio (2015) also use Italy as a case study and reveal that since rotation is costly and audit quality improves with auditor tenure, this case does not support MAFR.

After accounting scandals like Enron and Worldcom, SOX imposed new restrictions on corporate governance for companies. For example, independent audit committees are a requirement. Board size and its composition, audit committee and its requirements and the ownership structure of a firm in terms of institutional ownership are

all part of corporate governance and impact audit quality individually and together. These restrictions encourage more independent auditor-client relationships by a closer monitoring on management by these independent members. Okaro, Okafor, and Okoye (2015) find that board size had a negative and significant impact on audit quality. Additionally, board independence in terms of fewer executives residing on the board and abnormal accruals have found to have a negative association (Klein 2002). This is an indication that a less independent board committee, would propel auditors to engage in earnings management and hence abnormal accruals would be higher. If a firm engages in earnings management then its financial reports do not reflect the firm's true position and audit quality is not at par. Therefore, different measures of corporate governance enhance audit quality.

In this paper, I will be focusing on corporate governance in terms of institutional ownership percentage. Previous literature about institutional ownership percentage in playing a role as a good corporate governance measure mentions that a high institutional ownership percentage ensures shareholders are actively monitoring and influencing management's accounting policies and the functions of the company (Mitra, Hossain and Deis 2007). Institutional ownership is measured as the fraction of a company's shares held by institutional owners that include pension funds, endowments, hedge funds, mutual funds and commercial banks. The shares held by institutional owners is usually greater than that of individual investors and therefore, they have more power than individual investors (Zureigat 2011). Sharma (2004) concluded that as the percentage of independent institutional ownership increases the likelihood of frauds decreases. At the Financial Economists Roundtable Statement on Institutional Investors and Corporate

governance in 1999 it was mentioned how a larger ownership stake in a corporation increases the motivation for institutions to oversee management operations that would result in closer monitoring of the auditing process (Mitra, Hossain and Deis 2007). It is in the best interest of the shareholders for financial statements to be audited well, so they put a constraint on the accounting flexibility to supply false audited reports (Mitra, Hossain and Deis 2007). Additionally, Warfield, Wild and Wild (1994) conclude that managers tend to be biased and their accounting choices are influenced by their bias, and hence magnitude of discretionary accruals is significantly lower when manager ownership is high. Another theory as to why institutional ownership enhances corporate governance and in turn leads to greater audit quality is because sophisticated institutional owners want to pay for high-quality audits as a safeguard against fraudulent reporting (Mitra, Hossain and Deis 2007). To conclude, previous studies reveal how institutional ownership enhances audit quality by being a strong proxy for corporate governance.

One of the drawbacks of MAFR, as stated by different papers that have analyzed the impact of MAFR on audit quality, is auditor independence in terms of the outcomes of auditor-client relationship is not regulated even after MAFR is implemented (Aslan 2011). The reason for this is that management is less incentivized to worry about the outcomes of relationship with the auditor because of the shorter and fixed auditor tenure. Pricewaterhouse Coopers (PWC) (2007) mentions in their article called “Mandatory Rotation of Audit Firms” that MAFR does not actually lead to auditor independence as there are other ways like corporate governance measures, control standard (e.g. peer review) and other market forces (e.g. litigation) that do it. MAFR may increase auditor independence in appearance, however, not in actuality because the MAFR information is

public. Hence on paper, auditor independence seems to have increased, but in practice, nothing has changed. (Ewelt-Knauer, Gold and Pott 2013). Consequently, the costs of implementing MAFR are not worth it because auditor-client relationships are still close, and audits can be reported falsely. However, companies that have high institutional ownership are already invested in monitoring management, overseeing the audit process and promoting auditor independence. To conclude, if high institutional ownership firms implement MAFR then auditor independence in terms of the auditor maintaining an unbiased relationship with the management is already taken care of by the institutional owners and MAFR can further enhance audit quality. Whereas firms with low institutional ownership suffer from poor management oversight. The drawback of the MAFR regime is auditor independence, yet this will not be solved even when MAFR is implemented on firms with low institutional ownership and audit quality will not be improved. Hence firms with high institutional ownership would be able to enhance audit quality during a MAFR regime by tackling the auditor independence flaw.

III. Data

MAFR has been implemented in countries such as Italy, Brazil, etc. Their data is recorded in their regional language, which would be time consuming and costly to decipher and translate into English. Blouin, Grein and Rountree (2007) use former Arthur Andersen clients to analyze forced auditor change. Inspired by them, I am testing my hypothesis of MAFR using a special case of Arthur Andersen (AA) clients based in the US. These clients were forced to switch auditors in 2001 due to the collapse of AA in the wake of the Enron accounting scandal.

I collect all my data from Compustat and restrict my sample to only those clients that switched to a Big 4 auditor (PricewaterhouseCoopers, Deloitte, KPMG, and Ernst&Young) for homogeneity purposes. Subsequently, I distinguish between MAFR clients as those that switched auditors from AA in 2001 and volunteer clients as those that switched from non-AA audit firms. For many firms that were originally in my sample, data regarding institutional ownership percentage or discretionary accruals were missing pre-2001. Therefore, along with missing data problems and using the constraint of Big 4 audit firm switch, I narrow my MAFR scenario from 105 firms to 46 firms and for the non-MAFR scenario from 220 firms to 68 firms. While I collect data from 1996-2006, I exclude 2001 as that was the year the auditor switch happened. Most MAFR periods are 10 years (for example, India has a 10-year rotation period). However, I am restricted to a 5-year period because of the financial crisis of 2007-2008 as that would potentially skew my results. Additionally, to test the effect of MAFR on audit quality, I take data of the pre-switch and the post-switch periods and compare them.

I use discretionary accruals as a proxy for audit quality as it is the most commonly used proxy (Bing et.al 2014). Discretionary accruals are those portions of accruals that cannot reflect economic performance. They are also a popular tool used by managers to manipulate earnings. Since earnings management is inversely related to audit quality, and discretionary accruals are positively related to earnings management, then *ceteris paribus*, higher the discretionary accruals suggest lower audit quality (Bing et al. 2014). Elshafie and Nyadroh (2014) conclude that discretionary accruals have a significant association with restatements of financial statements, Big 4 audits and issuing a negative internal control report in the positive direction. This means that Big 4 audits have lower

discretionary accruals, which is another reason why I limit my sample to solely Big 4 auditors. Additionally, according to Lawrence et al. (2011), discretionary accruals can directly indicate the auditor's efforts to force accounting standards by spotting earnings management.

The independent variables include the percentage of institutional ownership of a company, the size of the firm and whether or not the audit firm is an industry expert. I find the data for percentage of institutional ownership directly on Thomson Reuters and the rest on Compustat. As mentioned in existing literature, the greater the percentage of institutional ownership, the greater is the monitoring process, which in turn leads to auditor independence. In turn, auditor independence leads to better audit quality (Lin and Tepalagul 2014). There is strong evidence that suggests the industry expertise of the auditor can be used as an audit quality proxy (Bing et al. 2014). Krishnan (2003) mentioned that auditors with expertise are associated with less earnings management and therefore better audit quality. For example, an audit firm that specializes in the banking sector will know how banking balance sheets are recorded and it would be easier for that auditor to spot abnormalities. Additionally, I believe that using other common proxy measures of audit quality variables such as audit fees and total revenue of audit firms as my control variables would be helpful. However, that was not a possibility because of missing data. I use the size of the firm as one of my variables to consider differences in larger and smaller firms. Besides, the literature states that smaller firms engage in more earnings manipulation in that they engage in more manipulation of discretionary accruals to avoid reporting losses (Kim, Liu and Rhee 2003). Finally, all these variables help me to conduct robust tests, which I further explain in my next section.

IV. Methodology

In order to test the impact of the MAFR regime on audit quality with firms of high and low institutional ownership percentage in place, I run a simple descriptive statistical analysis. This involves taking the mean, median and standard deviation of discretionary accruals, the industry expert variable and the size variable. I calculate this for the low and high institutional ownership case, MAFR vs. volunteer firms and the post and pre-period. In order to test for significance, I find the difference in means (p-value) between all these cases.

[INSERT TABLE 1 HERE]

To further carry out my research, I run simple OLS linear regressions. I create several dummy variables in order for my regression to make sense. I include a *POST* variable that is equal to one for years after 2001 and zero for years before 2001. I include a variable called *MAFR* equal to one for clients that were forced to switch from AA in 2001 and zero for those that voluntarily switched. I then interact these terms to test the incremental impact of MAFR on audit quality after the auditor change and name it *MAFR*POST*. After matching industry expertise with the actual auditor of the client, I create another variable called *industryexpertornot* that indicates a one value if the auditor is the same as the industry expertise auditor and a zero value if it is not. I take the natural log of total assets of each firm to control for the size effect as previous studies have done (Dang, Li and Yang 2018). I name this variable *totalassets_log*. My hypothesis revolves around institutional ownership and so I divided high and low institutional ownership based on two scenarios in 2001, the year of the switch. One is based on the median value

(0.0436) of institutional ownership in the year 2001 and so any value above (below) is assigned to the high (low) institutional ownership category. The other scenario entails assigning firms based on whether they have any institutional owners in 2001.

My primary regression models include discretionary accruals (*DACC_2*) as the dependent variable and my independent variables are *MAFR*, *POST*, *MAFR*POST*, *industryexpertornot* and *totalassets_log*. Additionally, I carry out another set of regressions without the two control variables-*industryexpertornot* and *totalassets_log*. I use these two models in four scenarios to run simple OLS linear regressions that help me distinguish high institutional ownership percentage firms with low institutional ownership percentage firms.

$$1) \text{ } DACC_{2it} = \beta_0 + \beta_1 MAFR + \beta_2 POST + \beta_3 MAFR * POST + \beta_4 Industryexpertornot + \beta_5 totalassets_{ln} + \epsilon_{it}$$

With this regression model in mind, the betas of *MAFR*, *POST*, *industryexpertornot* and *totalassets_ln* should be negative. The interacting term's (*MAFR*POST*) beta should be negative, but it should also be significant in the high institutional ownership case. If my results replicate this, then there is evidence consistent with my hypothesis that high institutional ownership percentage firms enhance audit quality during a MAFR regime. The next section highlights the descriptive and regression analyses.

V. Results, Discussion and Limitations

After running the descriptive statistical analysis, I find that for the post period between MAFR vs non-MAFR firms in the low institutional ownership case the

difference in the means for discretionary accruals is significant (0.00384). In contrast, for the high institutional ownership case it is not significant (0.128). This goes against my hypothesis as discretionary accruals should be significant in the post MAFR period for the high institutional ownership scenario for it to have an impact on audit quality. The size variable (0.0325) and the industry expert variable (1.719E-156) are both significant for MAFR vs non-MAFR in the high institutional ownership case.

In my primary regression models that include my two control variables, the cases based on median value, exhibit a *MAFR*POST* that has a negative correlation with discretionary accruals with a coefficient of -0.0149 in the low case and -0.0236 in the high case. *MAFR*POST* has a non-significant p-value in the low case (0.541) as well as in the high case (0.349). In the scenario based on zero as the dividing point, *MAFR*POST* continues to have a negative correlation with discretionary accruals and the coefficients are -0.0244 for the low case and -0.028 for the high case. The associating p-values are also not significant with 0.253 for the low case and 0.328 for the high case. The coefficient of *totalassets_log* in all four instances (high and low based on median and high and low based on zero) has a negative correlation with discretionary accruals, and the coefficient of *industryexpertornot* positively correlates to discretionary. This is consistent with previous studies that conclude industry expert auditor as a proxy for audit quality (Bing et.al 2014) and size as a control for discretionary accruals (Kim, Liu and Rhee 2003).

[INSERT TABLE 2 HERE]

In the case based on the median value of low institutional ownership in Column 1 and (-0.0233) in high institutional ownership case in Column 2, I find that the focus term (*MAFR*POST*) has a negative association with discretionary accruals (-0.0139) when the regression models that do not include the control variables are used. The p-values for the interaction term in both cases are not significant. Additionally, when I carry out the regression using high and low institutional ownership percentage based on zero, *MAFR*POST* still has a negative correlation with discretionary accruals (-0.025 in the low case and -0.028 in the high case). *MAFR*POST* is still not significant in the high and low scenario using zero as the dividing point with a p-value of 0.241 for the low case and 0.318 for the high case.

[INSERT TABLE 3 HERE]

My hypothesis states that a higher percentage of institutional ownership during a MAFR regime will enhance audit quality. To provide evidence for the hypothesis, the *MAFR*POST* variable would have to be significant and negative in all the high institutional ownership percentage cases. However, in all my regression scenarios this variable is not significant, thereby rejecting my hypothesis. There is existing literature that mentions how MAFR increases audit quality in those audit markets in which MAFR has been implemented (Bronson, Harris and Whisenant 2016). Additionally, firms with greater institutional ownership have also indicated better quality audits (Zureigat 2011). Therefore, it only makes sense that firms with a high institutional ownership percentage in a MAFR regime would have higher audit quality. However, my results do not support this hypothesis. In fact, audit quality and discretionary accruals are inversely related.

Therefore, lower the discretionary accruals, better is the audit quality. Although the MAFR*POST variable does have a negative coefficient attached to it through all the regression combinations, I cannot be sure of its impact on audit quality because it is not significant.

For the MAFR variable in the low institutional ownership percentage cases, the coefficients are negative. Yet for all the high ownership cases they are positive except for the cases of high and low based on zero with the control variables. In these two instances, MAFR has a positive coefficient of 0.0038471 attached to it in the low case and 0.000927 attached to it in the high case. Moreover, the difference between the high institutional ownership cases and the low institutional ownership cases is not much. In both cases, all the variables are not significant, and there is only a slight difference between the positive and negative coefficients. Therefore, my hypothesis can be rejected and differs from existing literature. There is no evidence that good corporate governance in terms of high institutional ownership percentage in a firm can improve audit quality during a MAFR regime and compensate for the lack of independence flaw that the MAFR regime deals with.

I am aware that my results are not easy to generalize in settings. The Arthur Andersen case is a peculiar one and does not truly represent a case of mandatory audit firm rotation, so my results are limited. Additionally, due to missing data, I was only able to use 117 firms in total, which is small sample size for generalizations. Rotation periods are usually seven to ten years. Since I only use five years of post MAFR data, my results may not accurately describe the rotation period effects on audit quality. Moreover, these

AA clients were not forced to change auditors after 2001 so it is not a true case of MAFR.

VI. Conclusion

This study addresses whether good corporate governance in terms of high institutional ownership percentage in a firm during a MAFR regime enhances audit quality. My findings suggest that there is no evidence that high institutional ownership percentage firms exhibit better audit quality during a MAFR regime. In short, the findings suggest that institutional ownership percentage in firms should not be used as a criterion for firms implementing MAFR. Despite the fact that MAFR in theory, and institutional ownership in reality, are both together and individually known to increase audit quality, they do not have a significant impact on it. Nevertheless, I acknowledge that my results may not be generalized because the AA scenario is not a true case of MAFR.

There is a lack of evidence on the impact of MAFR on audit quality, and so regulators should be wary of its implementation. They should not rely on MAFR to achieve better audit quality and have other structures like good corporate governance, stricter regulations for audit and board committees in place to achieve higher audit quality.

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APPENDIX A
Variable Definitions

Code	Definition
DACC_2	Discretionary accruals
IO_PCT	Percentage of shares held by institutions
Totalassets_log	The natural log of total assets
MAFR*POST	The interacting term between MAFR and Post.
MAFR	Indicates a 1 value if firms changed auditors from AA and 0 if they voluntarily changed auditors.
POST	Indicates a 1 value for years after 2001 (2002-2006) and 0 if otherwise.
Industryexpertornot	Indicates 1 value if auditor firm is industry expert and 0 if otherwise.
Highlow2001	Indicates 1 if institutional ownership % greater than 0.0436% and 0 if otherwise.
Highlowbasedon0	Indicates 1 if institutional ownership % greater than 0% and 0 if otherwise.

TABLE 1:

Descriptive statistical analysis of discretionary accruals, natural log of total assets and industry expert

	LOW_INST_OWN															
	MAFR							Non-MAFR							MAFR vs. Non-MAFR	MAFR vs. Non-MAFR
	PRE (N=140)			POST (N=140)			Diff in mean	PRE (N=135)			POST (N=135)			Diff in mean	Diff in mean PRE	Diff in mean POST
	Mean	Median	Std Dev	Mean	Median	Std Dev	(p-value)	Mean	Median	Std Dev	Mean	Median	Std Dev	(p-value)	(p-value)	(p-value)
Disc. Accruals	0.00	-0.01	0.11	-0.01	-0.01	0.08	0.10	0.02	0.02	0.21	0.02	0.00	0.13	0.04	0.15	0.00
natural log of assets	6.55	6.90	2.53	6.92	6.94	2.58	0.00	3.89	3.93	1.76	4.22	4.04	1.78	0.00	0.00	0.00
industryexpertnot	0.15	0.00	0.36	0.26	0.00	0.44	0.25	0.12	0.00	0.32	0.09	0.00	0.29	0.21	0.03	0.00

	HIGH_INST_OWN															
	MAFR							Non-MAFR							MAFR vs. Non-MAFR	MAFR vs. Non-MAFR
	PRE (N= 85)			POST (N= 85)			Diff in mean	PRE (N=)			POST (N=)			Diff in mean	Diff in mean PRE	Diff in mean POST
	Mean	Median	Std Dev	Mean	Median	Std Dev	(p-value)	Mean	Median	Std Dev	Mean	Median	Std Dev	(p-value)	(p-value)	(p-value)
Disc. Accruals	-0.01	0.01	0.17	-0.02	0.00	0.17	0.13	-0.02	-0.01	0.14	0.00	0.00	0.10	0.08	0.39	0.13
natural log of assets	5.22	5.40	2.10	5.83	5.86	2.14	0.00	5.76	5.63	1.87	6.10	6.20	1.84	0.14	0.00	0.03
industryexpertnot	0.15	0.00	0.36	0.31	0.00	0.46	0.01	0.24	0.00	0.43	0.20	0.00	0.40	0.17	0.17	0.00

TABLE 2:

Regression results with the primary regression equation using low (1) and high (2) case based on median value and low (3) and high (4) case using 0 as the dividing point

VARIABLES	(1) DACC_2	(2) DACC_2	(3) DACC_2	(4) DACC_2
MAFR	-0.00297 (0.0187)	0.00548 (0.0178)	0.00385 (0.0155)	0.000927 (0.0203)
POST	0.00270 (0.0173)	0.0171 (0.0138)	0.0214 (0.0163)	0.00720 (0.0145)
MAFR*POST	-0.0149 (0.0244)	-0.0236 (0.0252)	-0.0245 (0.0214)	-0.0281 (0.0287)
totalassets_log	-0.00689** (0.00285)	-0.000372 (0.00300)	-0.00772*** (0.00238)	-0.00316 (0.00309)
industryexpertornot	0.00848 (0.0175)	0.00241 (0.0141)	0.00801 (0.0141)	0.00168 (0.0161)
Constant	0.0463*** (0.0163)	-0.0166 (0.0197)	0.0415** (0.0164)	0.0101 (0.0182)
Observations	550	570	490	630
R-squared	0.021	0.003	0.034	0.005

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

TABLE 3:

Regression results without the controls while using low (1) and high (2) case based on median value and low (3) and high (4) case using 0 as the dividing point

VARIABLES	(1) DACC_2	(2) DACC_2	(3) DACC_2	(4) DACC_2
MAFR	-0.0211 (0.0172)	0.00549 (0.0177)	-0.0100 (0.0151)	0.00178 (0.0202)
POST	0.000143 (0.0174)	0.0169 (0.0137)	0.0206 (0.0164)	0.00566 (0.0144)
MAFR*POST	-0.0139 (0.0243)	-0.0233 (0.0251)	-0.0250 (0.0213)	-0.0286 (0.0286)
Constant	0.0206* (0.0123)	-0.0181* (0.00968)	0.00412 (0.0116)	-0.00536 (0.0102)
Observations	550	570	490	630
R-squared	0.011	0.003	0.013	0.003

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

